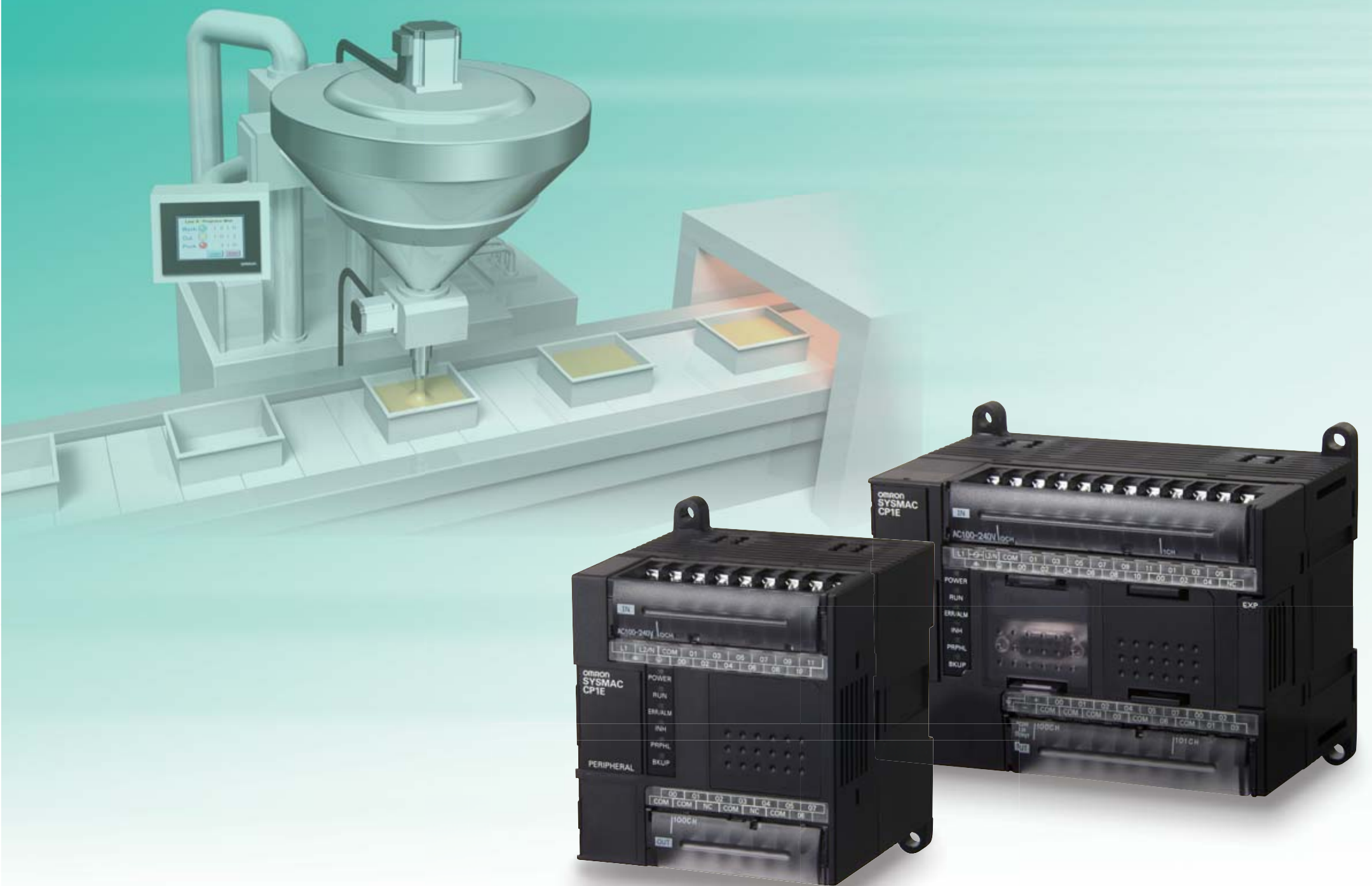


SYSMAC CP1E

Package PLCs with Exceptional Cost



» Easy to use

» **Economical**

» Efficient

Cost-Effective, Easy Application, Application to Many Systems



| Support Software with "Smart Input" intuitive operation.
| USB port provides. Support Software can be connected using commercially available USB cables.

E-type

The Basic Models provide cost performance and easy application.

The optimal cost can be achieved efficiently with two types CP1E CPU Units.

| Program capacity | N-type CP1E CPU Units Application Models | | | | | NA-type Built-in Analog I/O | |
|------------------|--|-------------------------|------------------|------------------|-------------------------|-----------------------------|---|
| 8K steps | CP1E-N14D□-□ NEW | CP1E-N20D□-□ | CP1E-N30D□-□ | CP1E-N40D□-□ | CP1E-N60D□-□ NEW | CP1E-NA20D□-□ NEW | |
| 2K steps | CP1E-E10D□-□ NEW | CP1E-E14DR-A NEW | CP1E-E20DR-A | CP1E-E30DR-A | CP1E-E40DR-A | | |
| | 10 | 14 | 20 | 30 | 40 | 60 | |
| | Number of I/O points | | | | | | 20 Built-in analog : 2 inputs / 1 output |

Economical

Exceptional Cost

Responding to Global Competition with More Device Control Possibilities

The CP1E all-in-one package PLCs provide high cost performance to further reduce costs by allowing you to select the optimal CPU Unit from the E-type Basic Models or N/NA-type Application Models.

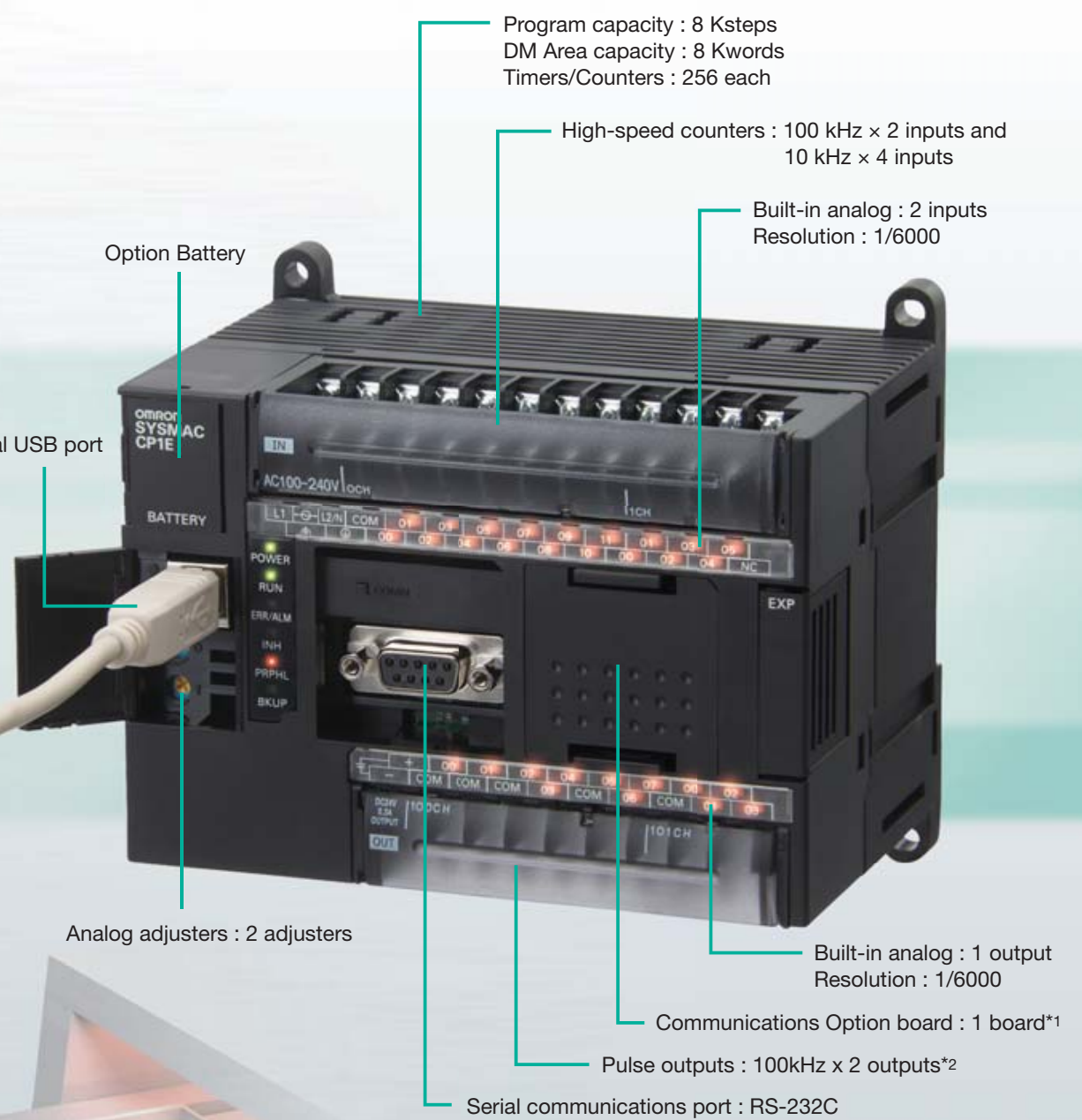
Economical

- | Exceptional Cost.
- | Optimal cost with a selection of two types of CP1E CPU Units.

Efficient

- | N/NA-type CPU Units for small-scale systems.
- | Option Board for increased expandability.

Option Battery
Peripheral USB port



*1. N-type CPU Units (30, 40, or 60 points)
NA-type CPU Units (20 points)
*2. Models with transistor outputs.
*3. NA-type CPU Units (20 points)

N/NA-type

Compatible with small Programmable Terminals and inverter-controlled position control.

Simple and User Friendly

Easy to use input editor with smart input function

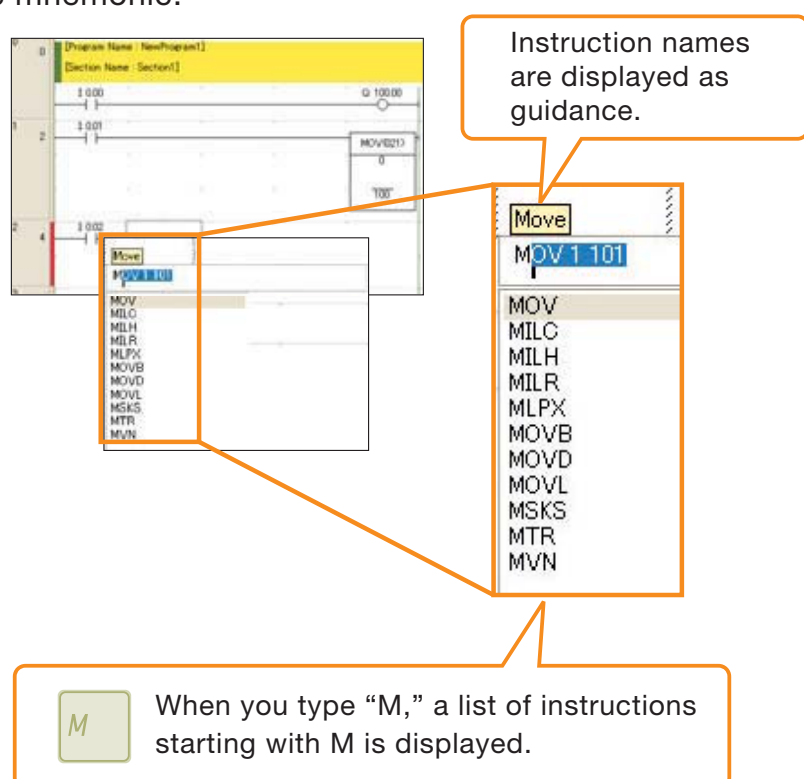
When you begin typing an instruction from the keyboard in Ladder Editor Mode, suggested instructions are displayed and the addresses are automatically entered.

Connecting lines are added automatically based on the cursor position, enabling intuitive ladder programming.

Easy Input Editor

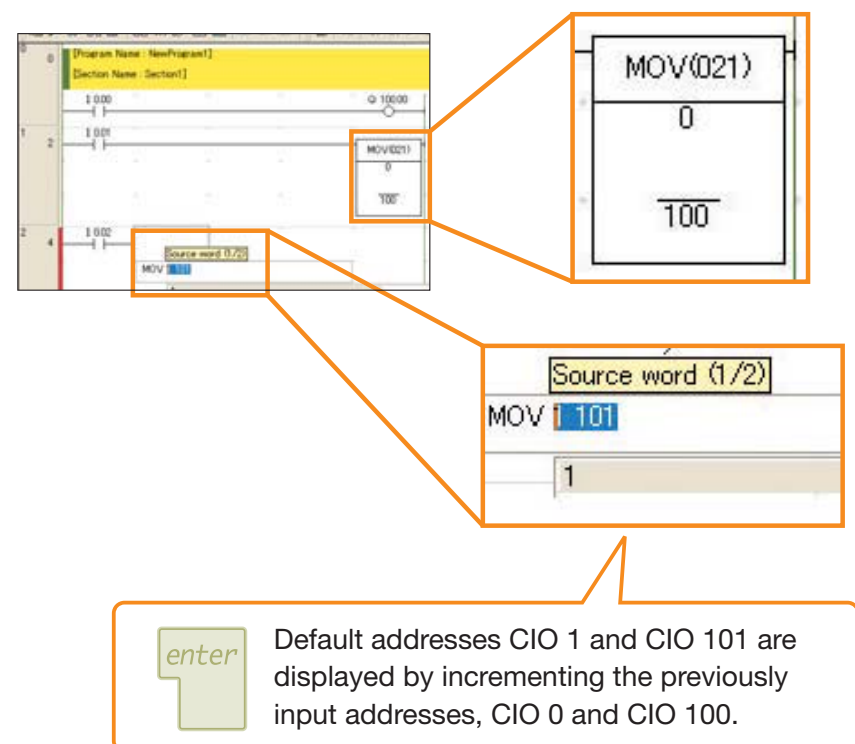
□ Instruction and Address Input Assist Functions

When you begin typing an instruction from the keyboard while in the Ladder Editor Window, suggested instructions are displayed. All you have to do is select the instruction from the list for easy input even if you do not remember the entire mnemonic.



□ Address Incrementing

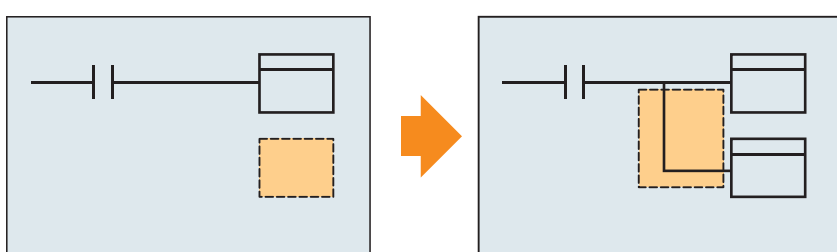
The address of the next operand, including input bits and output bits, is incremented by one and displayed as the default. This enables easily inputting consecutive addresses.



User-friendly Ladder Program Input

□ Automatic Connecting Line Insertion

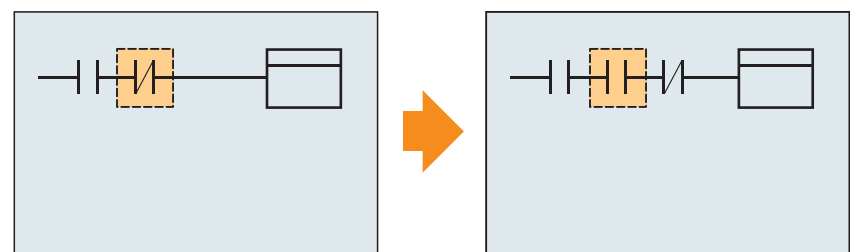
With the automatic connecting line insertion function the necessary connection is added automatically based on the cursor position.



When an instruction is input at the cursor, a connecting line is automatically inserted.

□ Automatic Column Insertion When Inserting Instructions

The column is automatically inserted when an instruction is added even if the cursor is above another instruction.



When an instruction is input at the cursor, a column is automatically inserted for the instruction.

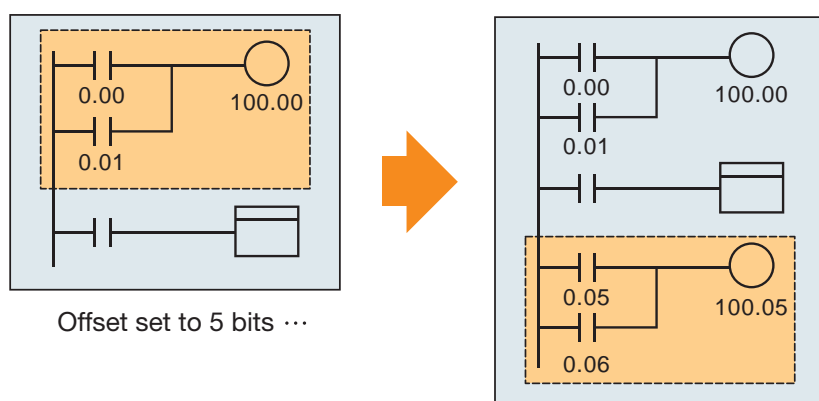
Intuitive control with “Smart Input.”
Visual decision making is supported with the display of terminal locations.

Easy to use

Easy to reuse ladder programming

□ Copying with Address Incrementing

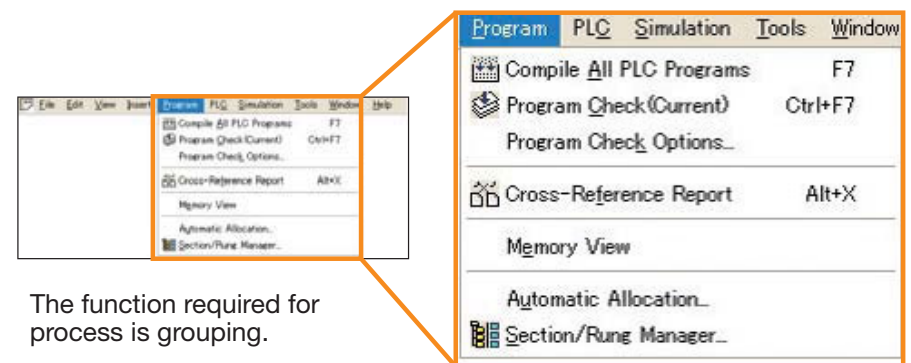
To create the same group of ladder instructions more than once with the address addition copy function, the instructions can be reused simply by inputting an address offset.



Intuitive Menu Structure

□ Intuitive Menu Display

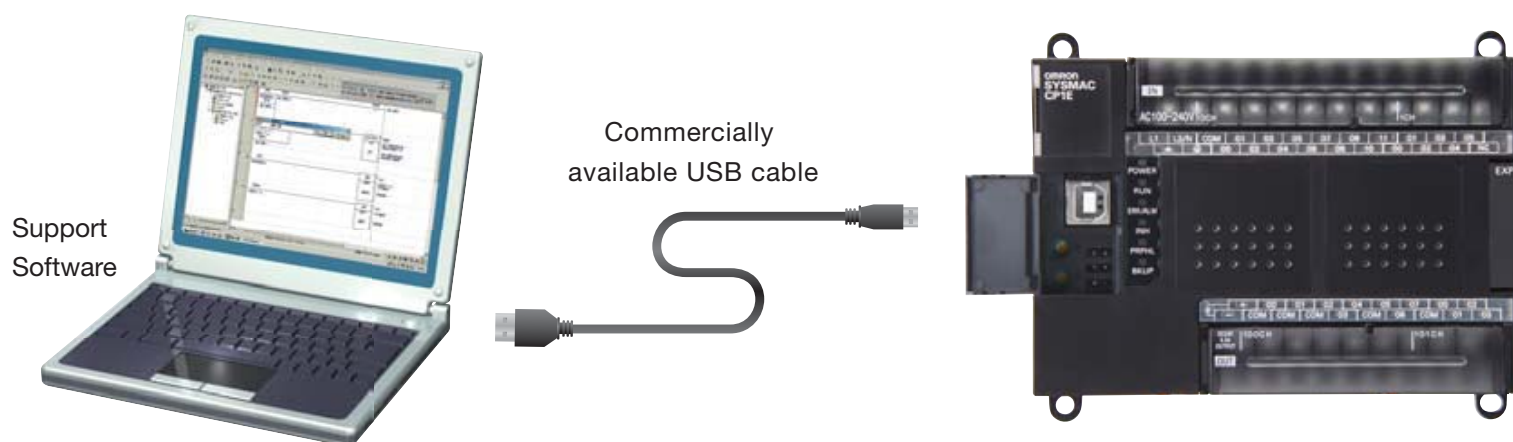
An intuitively designed menu structure makes it easy to see the overall system simply by looking at the menu for smooth operation without referring to a manual.



The function required for process is grouping.

Only commercially available USB cables required

All CP1E CPU Units use high-speed USB for the peripheral port. Computers can be connected using commercially available USB cables. Without the need for USB conversion cables or special cables, connection is easier and cable cost is low.



I/O status at a Glance

The terminal layout display features I/O indicators. The indicators are in the same position as the terminals to let you see the I/O status at a glance. You can easily identify I/O status or perform status checks at startup or during operation.

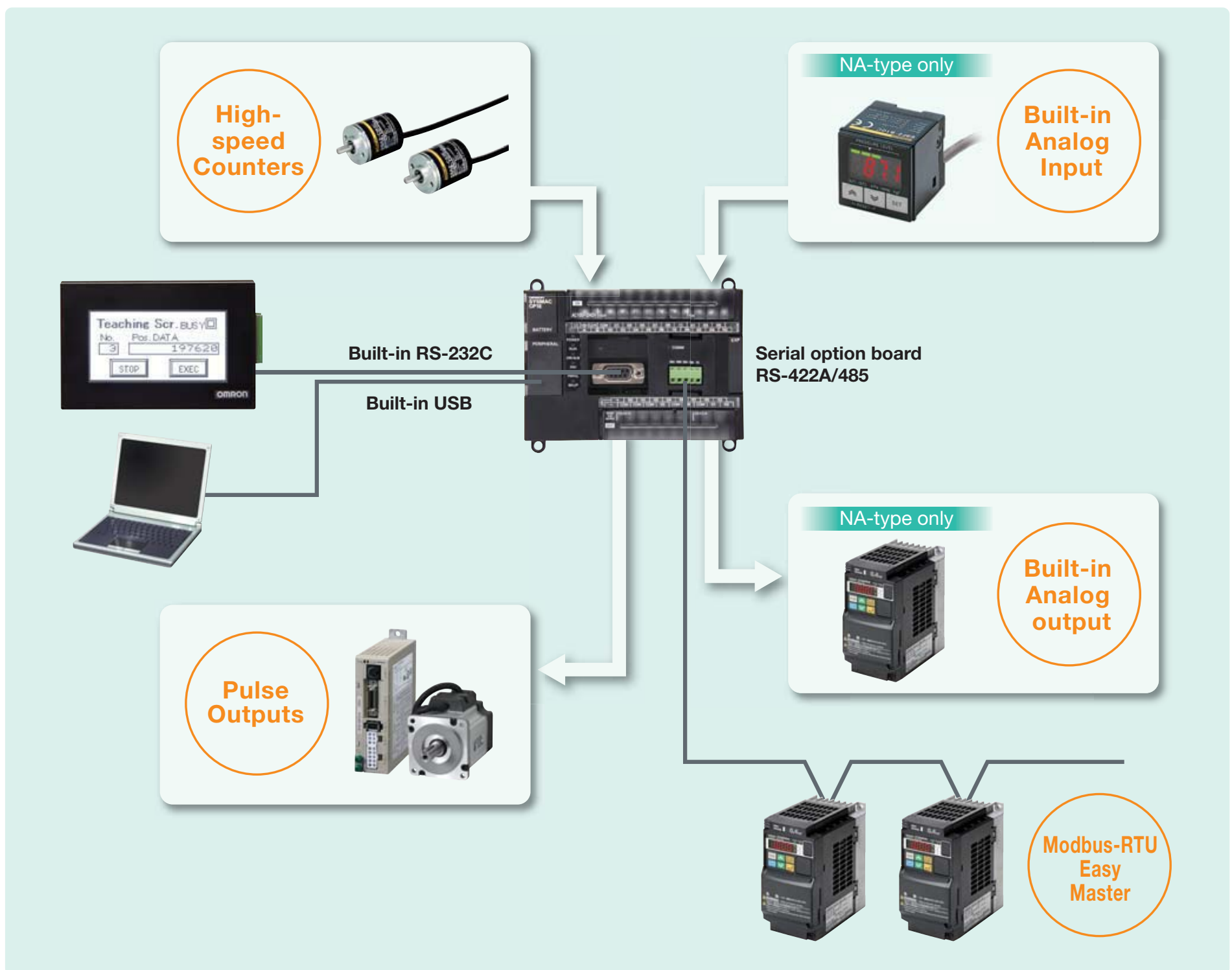


Efficient and Effective

More Applications with Advanced Control Capabilities and Functionality

N/NA-type only

The CP1E N/NA-type CPU Units are equipped with high-speed counters, pulse outputs, and a built-in serial port. An option board for an additional Serial or Ethernet communication port is available. These features enable controlling a wide range of devices.



Pulse Outputs

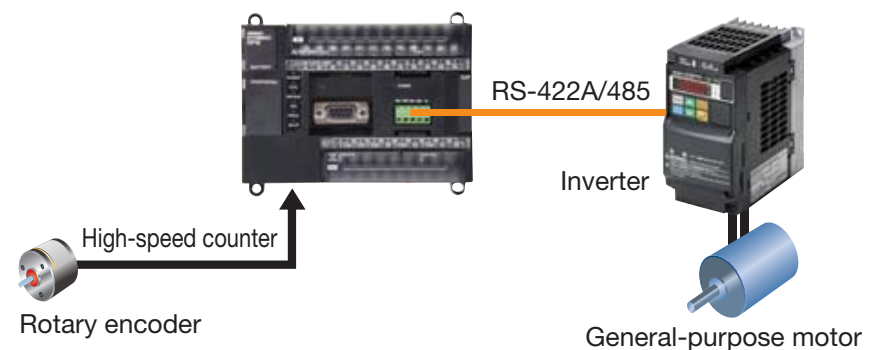
Two 100kHz pulse outputs for high-precision position control.

Note : Models with transistor outputs.



Modbus-RTU easy master

Specify Inverter speeds via RS-422A/485.

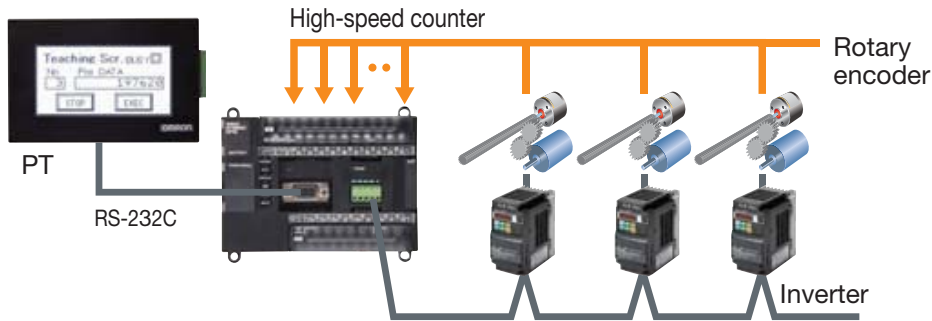


Flexibly handle even small-scale systems.
 Various Option Units available for
 increased expandability.

Efficient

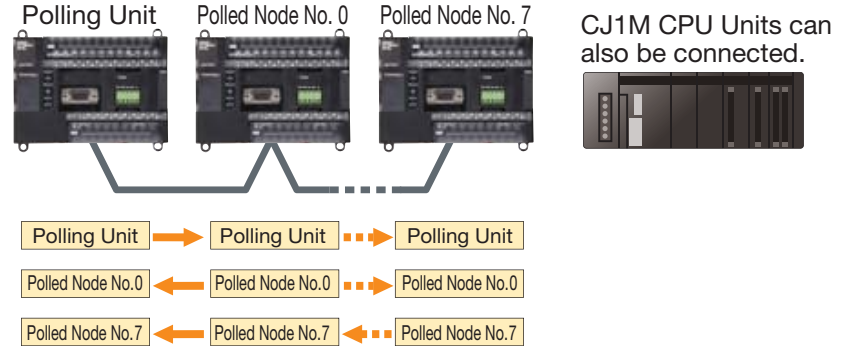
High-speed Counters

Control multiple axes with one PLC using the two 100kHz and four 10kHz, single-phase high-speed counters.



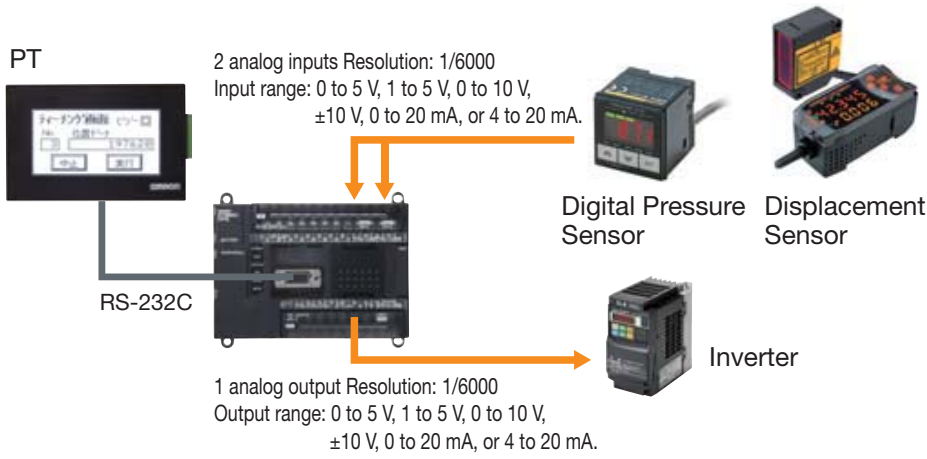
Serial PLC Links

Link data with up to 10 words between up to nine CP1E-N CPU Units when controlling a device with multiple CP1E-N PLCs.



Analog I/O **NA-type only**

Built-in analog I/O, two inputs and one output, for NA-type CPU Units. Analog Control and Monitoring with Only a Single CPU Unit.

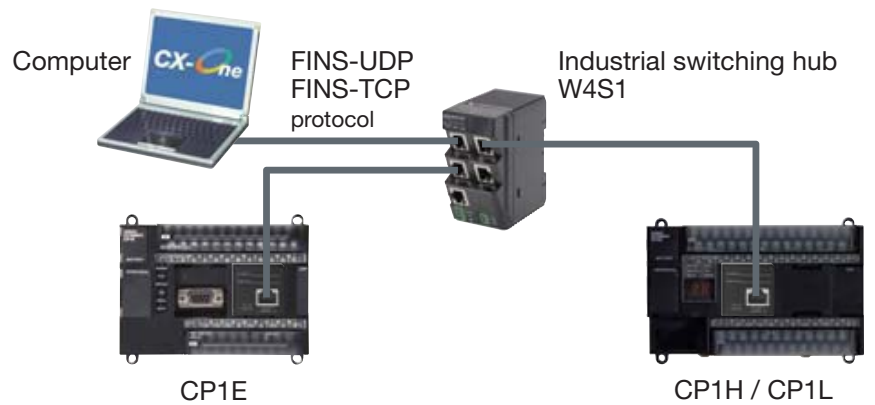


Analog I/O is also available with Expansion Units.

Ethernet Communications **NEW**

Mount a CP1W-CIF41 Ethernet Option Board to an option board slot on the CP1E-N/NA type CPU Unit.

Perform monitoring and programming with CX-Programmer, or communicate with a host computer via Ethernet.



Optional units for more flexibility

Three expansion units are available. An option board for an additional Serial or Ethernet communication port can be added to N/NA-type CPU unit.

Option Board

N-type CPU Unit with 30, 40, or 60 I/O Points
 NA-type CPU Unit with 20 I/O Points

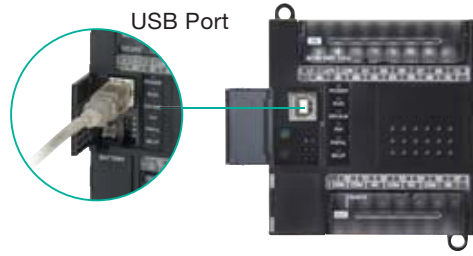
- RS-232C Option Board**
CP1W-CIF01
- RS-422A/485 Option Board**
CP1W-CIF11
(Maximum transmission distance: 50m)
- RS-422A/485 Option Board (Isolated-type)**
CP1W-CIF12
(Maximum transmission distance: 500m)
- Ethernet Option Board** NEW
CP1W-CIF41
(CP1E PLCs are supported by CP1W-CIF41 version 2.0 or higher.)

Expansion Units and Expansion I/O Units

E-type CPU Unit with 30 or 40 I/O Points / N-type CPU Unit with 30, 40, or 60 I/O Points / NA-type CPU Unit with 20 I/O Points

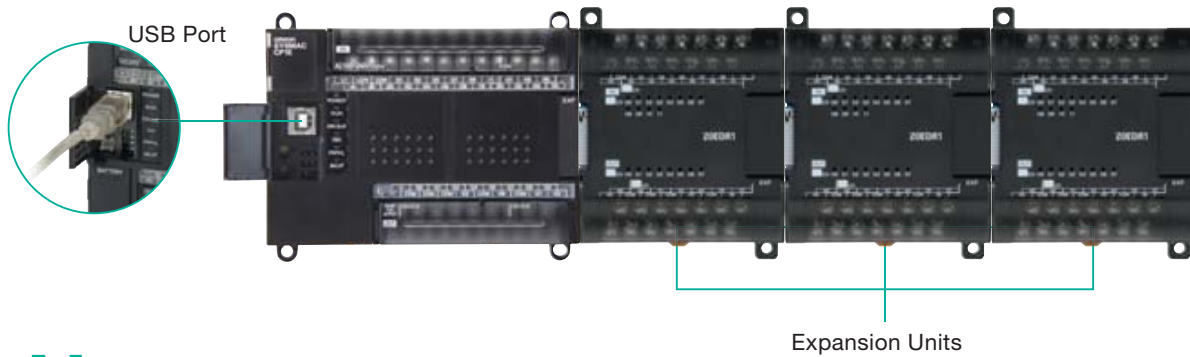
| Expansion I/O Units | Analog I/O Units | Temperature Sensor Units | CompoBus/S I/O Link Unit |
|--|---|---|---|
| Units with 40 I/O CP1W-40EDR / CP1W-40EDT / CP1W-40EDT1 Units with 20 I/O CP1W-20EDR1 / CP1W-20EDT / CP1W-20EDT1 Units with 32 Outputs CP1W-32ER / CP1W-32ET / CP1W-32ET1 Units with 16 Outputs CP1W-16ER / CP1W-16ET / CP1W-16ET1 Units with 8 Outputs CP1W-8ER / CP1W-8ET / CP1W-8ET1 Unit with 8 Inputs CP1W-8ED | Analog I/O Unit CP1W-MAD11 Analog Input Unit CP1W-AD041 Analog Output Unit CP1W-DA041 CP1W-DA021 NEW | Temperature Sensor Units (Thermocouples) CP1W-TS001 CP1W-TS002 Temperature Sensor Units (Platinum Resistance Thermometers) CP1W-TS101 CP1W-TS102 | CompoBus/S Slave CP1W-SRT21 |

E-type CPU Unit with 10, 14, or 20 I/O Points



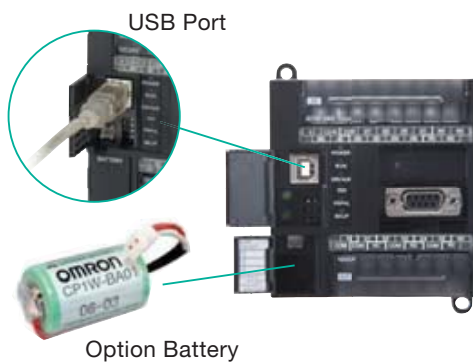
| | |
|------------------|-------------------------------------|
| USB port | Program capacity:2K steps |
| Built-in RS-232C | DM Area capacity:2K words |
| Option Board | High-speed counters:10 kHz×6 inputs |
| Option Battery | Pulse outputs |
| Expansion Unit | Billt-in analog |
| Clock | |

E-type CPU Unit with 30 or 40 I/O Points



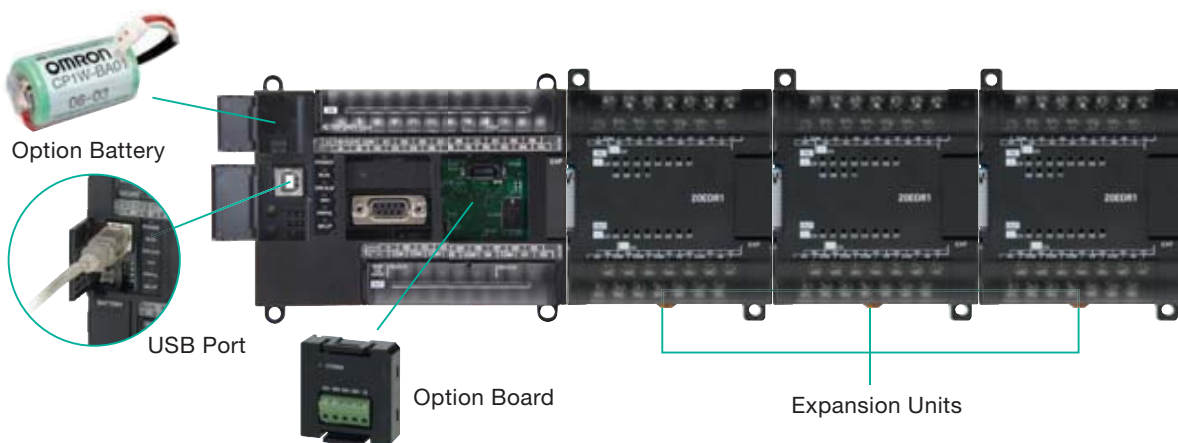
| | |
|------------------|-------------------------------------|
| USB port | Program capacity:2K steps |
| Built-in RS-232C | DM Area capacity:2K words |
| Option Board | High-speed counters:10 kHz×6 inputs |
| Option Battery | Pulse outputs |
| Expansion Unit | Billt-in analog |
| Clock | |

N-type CPU Unit with 14 or 20 I/O Points



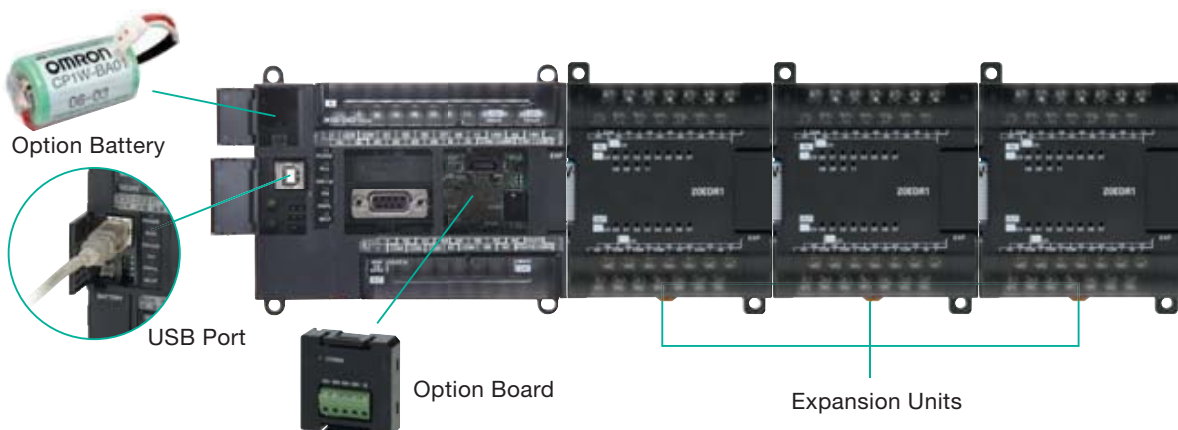
| | |
|------------------|--|
| USB port | Program capacity:8 K steps |
| Built-in RS-232C | DM Area capacity:8 K words |
| Option Board | High-speed counters:100 kHz×2 inputs and 10 kHz×4 inputs |
| Option Battery | Pulse outputs:100kHz×2 outputs |
| Expansion Unit | Billt-in analog:2 inputs and 1 output |
| Clock | |

N-type CPU Unit with 30, 40, or 60 I/O Points



| | |
|------------------|--|
| USB port | Program capacity:8 K steps |
| Built-in RS-232C | DM Area capacity:8 K words |
| Option Board | High-speed counters:100 kHz×2 inputs and 10 kHz×4 inputs |
| Option Battery | Pulse outputs:100kHz×2 outputs |
| Expansion Unit | Billt-in analog:2 inputs and 1 output |
| Clock | |

NA-type CPU Unit with 20 I/O Points (Built-in analog)



| | |
|------------------|--|
| USB port | Program capacity:8 K steps |
| Built-in RS-232C | DM Area capacity:8 K words |
| Option Board | High-speed counters:100 kHz×2 inputs and 10 kHz×4 inputs |
| Option Battery | Pulse outputs:100kHz×2 outputs |
| Expansion Unit | Billt-in analog:2 inputs and 1 output |
| Clock | |

For details, refer to the CP1E Data Sheet (Cat.No.P061)

Ordering information

International Standards

- The standards are abbreviated as follows: U: UL, U1: UL(Class I Division 2 Products for Hazardous Locations), C: CSA, UC: cULus, UC1: cULus (Class I Division 2 Products for Hazardous Locations), CU: cUL, N: NK, L: Lloyd, and CE: EC Directives.
- Contact your OMRON representative for further details and applicable conditions for these standards.

E-type CP1E CPU Units (Basic models)

| Product name | Specifications | | | | | Model | Standards |
|---------------------------|----------------|--------|---------|----------------------|-------------------------|----------|--------------------------|
| | Power Supply | Inputs | Outputs | Output type | Program capacity | | |
| E-type with 10 I/O Points | 100 to 240 VAC | 6 | 4 | Relay | 2K steps | 2K words | CP1E-E10DR-A NEW |
| | | | | Transistor(sinking) | | | CP1E-E10DT-A NEW |
| | | | | Transistor(sourcing) | | | CP1E-E10DT1-A NEW |
| | 24 VDC | | | Relay | | | CP1E-E10DR-D NEW |
| | | | | Transistor(sinking) | | | CP1E-E10DT-D NEW |
| | | | | Transistor(sourcing) | | | CP1E-E10DT1-D NEW |
| E-type with 14 I/O Points | 100 to 240 VAC | 8 | 6 | Relay | CP1E-E14DR-A NEW | | |
| E-type with 20 I/O Points | | 12 | 8 | Relay | CP1E-E20DR-A | | |
| E-type with 30 I/O Points | | 18 | 12 | Relay | CP1E-E30DR-A | | |
| E-type with 40 I/O Points | | 24 | 16 | Relay | CP1E-E40DR-A | | |

Note: There are no accessories included with E-type CP1E CPU Units. A Battery (CP1W-BAT01) cannot be used.

N/NA-type CP1E CPU Units (Application models)

| Product name | Specifications | | | | | Model | Standards |
|--|--|---------------------------------|--------------------------------|-----------------------|------------------|------------|---------------------------|
| | Power Supply | Inputs | Outputs | Output type | Program capacity | | |
| N-type with 14 I/O Points | 100 to 240 VAC | 8 | 6 | Relay | 8K steps | 8K words | CP1E-N14DR-A NEW |
| | | | | Transistor(sinking) | | | CP1E-N14DT-A NEW |
| | | | | Transistor(sourcing) | | | CP1E-N14DT1-A NEW |
| | 24 VDC | | | Relay | | | CP1E-N14DR-D NEW |
| | | | | Transistor(sinking) | | | CP1E-N14DT-D NEW |
| | | | | Transistor(sourcing) | | | CP1E-N14DT1-D NEW |
| N-type with 20 I/O Points | 100 to 240 VAC | 12 | 8 | Relay | 8K steps | 8K words | CP1E-N20DR-A |
| | | | | Transistor (sinking) | | | CP1E-N20DT-A |
| | | | | Transistor (sourcing) | | | CP1E-N20DT1-A |
| | 24 VDC | | | Relay | | | CP1E-N20DR-D |
| | | | | Transistor (sinking) | | | CP1E-N20DT-D |
| | | | | Transistor (sourcing) | | | CP1E-N20DT1-D |
| N-type with 30 I/O Points | 100 to 240 VAC | 18 | 12 | Relay | 8K steps | 8K words | CP1E-N30DR-A |
| | | | | Transistor (sinking) | | | CP1E-N30DT-A |
| | | | | Transistor (sourcing) | | | CP1E-N30DT1-A |
| | 24 VDC | | | Relay | | | CP1E-N30DR-D |
| | | | | Transistor (sinking) | | | CP1E-N30DT-D |
| | | | | Transistor (sourcing) | | | CP1E-N30DT1-D |
| N-type with 40 I/O Points | 100 to 240 VAC | 24 | 16 | Relay | 8K steps | 8K words | CP1E-N40DR-A |
| | | | | Transistor (sinking) | | | CP1E-N40DT-A |
| | | | | Transistor (sourcing) | | | CP1E-N40DT1-A |
| | 24 VDC | | | Relay | | | CP1E-N40DR-D |
| | | | | Transistor (sinking) | | | CP1E-N40DT-D |
| | | | | Transistor (sourcing) | | | CP1E-N40DT1-D |
| N-type with 60 I/O Points | 100 to 240 VAC | 36 | 24 | Relay | 8K steps | 8K words | CP1E-N60DR-A NEW |
| | | | | Transistor(sinking) | | | CP1E-N60DT-A NEW |
| | | | | Transistor(sourcing) | | | CP1E-N60DT1-A NEW |
| | 24 VDC | | | Relay | | | CP1E-N60DR-D NEW |
| | | | | Transistor(sinking) | | | CP1E-N60DT-D NEW |
| | | | | Transistor(sourcing) | | | CP1E-N60DT1-D NEW |
| NA-type with 20 I/O Points (Built-in analog) | 100 to 240 VAC | 12 (Built-in analog inputs : 2) | 8 (Built-in analog output : 1) | Relay | 8K steps | 8K words | CP1E-NA20DR-A NEW |
| | 24 VDC | | | Transistor(sinking) | | | CP1E-NA20DT-D NEW |
| | | | | Transistor(sourcing) | | | CP1E-NA20DT1-D NEW |
| Battery Set | For N/NA-type CP1E CPU Units Note: Mount a Battery to an N/NA-type CP1E CPU Unit if the data in the following areas must be backed up for power interruptions. • DM Area (D) (except backed up words in the DM Area), Holding Area (H), Counter Completion Flags (C), Counter Present Values (C), Auxiliary Area (A) , and Clock Function.(Use batteries within two years of manufacture.) | | | | | CP1W-BAT01 | CE |

Note: There are no accessories included with N/NA-type CP1E CPU Units. RS-232C connectors for the built-in RS-232C port and the Battery (CP1W-BAT01) are not included.

FA Integrated Tool Package CX-One

The CX-One is a comprehensive software package that integrates PLC Programming Software with Support Software for setting up Networks, Programmable Terminals, Servo Systems, Inverters, and Temperature Controllers.



- CX-Programmer provides a Smart Input function for intuitive software operation to simplify programming. (Ver.9.□ or Later)
- Support Software applications for the NS-series HMIs, NV-series HMIs, and Temperature Controllers are also included for simple setup operations.
- Total lead time until the system is up and running is reduced.

“One Software” for our Compact PLCs CX-One Lite

We've upgraded the CX-One Lite Software Package which is designed specifically for low end systems. When using Compact PLCs only, the CX-One Lite is your cost effective programming and configuration tool.

Support Software in CX-One The following tables lists the Support Software that can be installed from CX-One

| Support Software in CX-One | | CX-One Lite Ver.4.□ | CX-One Ver.4.□ |
|---------------------------------|---------|---------------------|----------------|
| Micro PLC Edition CX-Programmer | Ver.9.□ | Yes | No |
| CX-Programmer | Ver.9.□ | No | Yes |
| CX-Integrator | Ver.2.□ | Yes | Yes |
| Switch Box Utility | Ver.1.□ | Yes | Yes |
| CX-Protocol | Ver.1.□ | No | Yes |
| CX-Simulator | Ver.1.□ | Yes | Yes |
| CX-Position | Ver.2.□ | No | Yes |
| CX-Motion-NCF | Ver.1.□ | No | Yes |
| CX-Motion-MCH | Ver.2.□ | No | Yes |
| CX-Motion | Ver.2.□ | No | Yes |

| Support Software in CX-One | | CX-One Lite Ver.4.□ | CX-One Ver.4.□ |
|-------------------------------|---------|---------------------|----------------|
| CX-Drive | Ver.1.□ | Yes | Yes |
| CX-Process Tool | Ver.5.□ | No | Yes |
| Faceplate Auto-Builder for NS | Ver.3.□ | No | Yes |
| CX-Designer | Ver.3.□ | Yes | Yes |
| NV-Designer | Ver.1.□ | Yes | Yes |
| CX-Thermo | Ver.4.□ | Yes | Yes |
| CX-ConfiguratorFDT | Ver.1.□ | Yes | Yes |
| CX-FLnet | Ver.1.□ | No | Yes |
| Network Configurator | Ver.3.□ | Yes | Yes |
| CX-Server | Ver.4.□ | Yes | Yes |

Note: For details, refer to the CX-One Catalog (Cat. No. R134).

Ordering Information

| Product name | Specifications | Number of licenses | | Media | Model | Standards |
|--|--|--------------------|-----------|-------|----------------|-----------|
| | | | | | | |
| FA Integrated Tool Package CX-One Lite Ver.4.□ | CX-One Lite is a subset of the complete CX-One package that provides only the Support Software required for micro PLC applications. CX-One Lite runs on the following OS. OS: Windows XP (Service Pack 3 or higher), Vista or 7 Note: Except for Windows XP 64-bit version. CX-One Lite Ver. 4.□ includes Micro PLC Edition CXProgrammer Ver.9.□. | 1 | license | CD | CXONE-LT01C-V4 | — |
| FA Integrated Tool Package CX-One Ver.4.□ | CX-One is a comprehensive software package that integrates Support Software for OMRON PLCs and components. CX-One runs on the following OS. OS: Windows XP (Service Pack 3 or higher), Vista or 7 Note: Except for Windows XP 64-bit version. CX-One Ver. 4.□ includes CX-Programmer Ver. 9.□. | 1 | license*1 | DVD*2 | CXONE-AL01D-V4 | — |

Note: 1.The E20, E30,E40, N20, N30 and N40 CPU Units are supported by CX-Programmer version 8.2 or higher.

The E10, E14, N14, N60, and NA20 CPU Units are supported by CX-Programmer version 9.03 or higher. When Micro PLC Edition CX-Programmer is used, you need version 9.03 or higher.

2. When using CP1W-CIF41, CX-Programmer version 9.12 or higher is required.

3. The CX-One and CX-One Lite cannot be simultaneously installed on the same computer.

*1. Multi licenses are available for the CX-One (3, 10, 30 or 50 licenses).

*2. The CX-One is also available on CD (CXONE-AL□□C-V4).

Read and Understand this Catalog

Please read and understand this catalog before purchasing the product. Please consult your OMRON representative if you have any questions or comments.

Warranty and Limitations of Liability

WARRANTY

OMRON's exclusive warranty is that the products are free from defects in materials and workmanship for a period of one year (or other period if specified) from date of sale by OMRON.

OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, REGARDING NON-INFRINGEMENT, MERCHANTABILITY, OR FITNESS FOR PARTICULAR PURPOSE OF THE PRODUCTS. ANY BUYER OR USER ACKNOWLEDGES THAT THE BUYER OR USER ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE. OMRON DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

LIMITATIONS OF LIABILITY

OMRON SHALL NOT BE RESPONSIBLE FOR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, OR STRICT LIABILITY.

In no event shall the responsibility of OMRON for any act exceed the individual price of the product on which liability is asserted.

IN NO EVENT SHALL OMRON BE RESPONSIBLE FOR WARRANTY, REPAIR, OR OTHER CLAIMS REGARDING THE PRODUCTS UNLESS OMRON'S ANALYSIS CONFIRMS THAT THE PRODUCTS WERE PROPERLY HANDLED, STORED, INSTALLED, AND MAINTAINED AND NOT SUBJECT TO CONTAMINATION, ABUSE, MISUSE, OR INAPPROPRIATE MODIFICATION OR REPAIR.

Application Considerations

SUITABILITY FOR USE

OMRON shall not be responsible for conformity with any standards, codes, or regulations that apply to the combination of the product in the customer's application or use of the product.

Take all necessary steps to determine the suitability of the product for the systems, machines, and equipment with which it will be used.

Know and observe all prohibitions of use applicable to this product.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

PROGRAMMABLE PRODUCTS

OMRON shall not be responsible for the user's programming of a programmable product, or any consequence thereof.

Disclaimers

CHANGE IN SPECIFICATIONS

Product specifications and accessories may be changed at any time based on improvements and other reasons. Consult with your OMRON representative at any time to confirm actual specifications of purchased product.

DIMENSIONS AND WEIGHTS

Dimensions and weights are nominal and are not to be used for manufacturing purposes, even when tolerances are shown.

PERFORMANCE DATA

Performance data given in this catalog is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of OMRON's test conditions, and the users must correlate it to actual application requirements. Actual performance is subject to the OMRON Warranty and Limitations of Liability.

Note: Do not use this document to operate the Unit.

OMRON Corporation Industrial Automation Company
Tokyo, JAPAN

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